

CUSTOMER NO.: 24498
Serial No.: 10/511,638
Office Action dated: 12/07/07
Response dated: April 22, 2008

PATENT
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Listing and Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) An apparatus for enabling recovery of missing information in a digital communication system, comprising:

a Forward Erasure Correction (FXC) encoder for computing FXC parity superpackets across information superpackets for subsequent recovery of any entire ones of the information superpackets that have been at least partially compromised due to synchronization loss; and

a multiplexer for multiplexing the information super packets and the FXC parity superpackes prior to any transmission thereof.

2. (Original) The apparatus of claim 1, wherein the FXC encoder computes the FXC parity superpackets across the information superpackets at one byte per each of the information superpackets.

3. (Original) The apparatus of claim 1, wherein for k information superpackets, each of length s , said FXC encoder computes h FXC parity superpackets of the length s , where $h = n - k$, n = a block length of each of the FXC parity superpackets, and k = a number of information symbols in each of the FXC parity superpackets.

4. (Cancelled).

5. (Original) The apparatus of claim 1, wherein the multiplexer assigns different Process IDentifiers (PIDs) to the FXC parity superpackets than the information superpackets.

6. (Original) The apparatus of claim 1, wherein the FXC encoder computes the FXC parity superpackets using Reed Solomon (RS) codes.

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7. (Currently Amended) The apparatus of claim 1, wherein the further comprising a multiplexer generates for generating FXC sync transport packets that indicate a correspondence between superpacket sequence number start positions.

8. (Original) The apparatus of claim 1, wherein the FXC parity superpackets are computed over time periods corresponding to an expected length of at least one synchronization loss period.

9. (Currently Amended) An apparatus for recovering missing information in a digital communication system, comprising:

a Forward Erasure Correction (FXC) decoder for decoding FXC parity superpackets previously computed across information superpackets to recover any entire ones of the information superpackets that have been at least partially compromised due to synchronization loss;

wherein said FXC decoder further decodes FXC sync transport packets to determine superpacket sequence numbers and superpacket positions for both the FXC parity superpackets and the information superpackets.

10. (Cancelled).

11. (Original) The apparatus of claim 9, wherein said FXC decoder is adapted to receive an error signal that indicates an erasure position corresponding to the information superpackets that have been at least partially compromised due to the synchronization loss.

12. (Currently Amended) A method for enabling recovery of missing information in a digital communication system, comprising:

computing FXC parity superpackets across information superpackets for subsequent recovery of any entire ones of the information superpackets that have been at least partially compromised due to synchronization loss; and

multiplexing the information superpackets and the FXC parity superpackets prior to any transmission thereof.

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13. (Original) The method of claim 12, wherein said computing step comprises the step of computing the FXC parity superpackets across the information superpackets at one byte per each of the information superpackets.

14. (Original) The method of claim 12, wherein for k information superpackets, each of length s , said computing step comprises the step of computing h FXC parity superpackets of the length s , where $h = n - k$, n = a block length of each of the FXC parity superpackets, and k = a number of information symbols in each of the FXC parity superpackets.

15. (Cancelled)

16. (Currently Amended) The method of claim 12, wherein said multiplexing step further comprises the step of assigning different Process IDentifiers (PIDs) to the FXC parity superpackets than the information superpackets.

17. (Original) The method of claim 12, wherein said computing step computes the FXC parity superpackets using Reed Solomon (RS) codes.

18. (Original) The method of claim 12, further comprising the step of generating FXC sync transport packets that indicate a correspondence between superpacket sequence number start positions.

19. (Original) The method of claim 12, wherein said computing step computes the FXC parity superpackets over time periods corresponding to an expected length of at least one synchronization loss period.

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20. (Currently Amended) A method for recovering missing information in a digital communication system, comprising:
decoding FXC parity superpackets previously computed across information superpackets to recover any entire ones of the information superpackets that have been at least partially compromised due to synchronization loss; and
decoding FXC sync transport packets to determine superpacket sequence numbers and superpacket positions for both the FXC parity superpackets and the information superpackets.

21. (Cancelled)